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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PHILIPPE GATEPIN

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Appeal 2007-3611  
Application 09/836,096  
Technology Center 2600

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Decided: March 10, 2008

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Before ANITA PELLMAN GROSS, ROBERT E. NAPPI, and CARLA M. KRIVAK, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) the final rejection of claims 2 through 7.

We reverse the Examiner's rejection of these claims.

INVENTION

The invention is directed to a method of controlling a set of transcoding channels. The method makes use of an indicator of compressed data quality for the transcoded channel computed based upon the input

compressed data signal. See page 2 and figure 2 of Appellant's Specification. Claim 2 is representative of the invention and reproduced below:

2. A method of controlling a plurality of transcoding channels, a transcoding channel allowing an input compressed data signal encoded at an input bit rate to be converted into an output compressed data signal encoded at an output bit rate wherein a regulation process uses quantization scales and the input compressed data signal to determine a video encoding complexity, said method comprising the steps of:

computing a weighting factor of a compressed data quality for the respective transcoding channels, the weighting factor being computed for a current picture of the input compressed data signal as an average, over a set of preceding encoded pictures, of an average quantization scale over a preceding picture and a number of bits used to encode the same preceding picture;

determining an indicator as function of the transcoding channel video complexity and associated weighting factor; and

allocating the output bit rate to the transcoding channel from a total output bit rate, its corresponding indicator and a sum of the indicators of the transcoding channels.

#### REFERENCES

Wang	US 6,167,084	Dec. 26, 2000
Wu	US 6,963,608 B1	Nov. 8, 2005

#### REJECTION AT ISSUE

Claims 2 through 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Wu. The Examiner's rejection is on pages 3 through 5 of the Answer.

Throughout the opinion, we make reference to the Brief (received October 24, 2006), and the Answer (mailed February 23, 2007) for the respective details thereof.

## ISSUE

Appellant contends that the Examiner's rejection of claims 2 through 7 under 35 U.S.C. § 103(a) is in error. Appellant argues that both Wang and Wu use characteristics of the transcoder output to determine the output bit rate whereas the independent claims recite using the input compressed data signal to determine a video encoding complexity. Brief 6, 8, and 9.

Thus the issue before us is whether the Examiner erred in determining that the combination of Wang and Wu teaches or suggests using the input compressed data signal to determine a video encoding complexity.

## PRINCIPLES OF LAW

The preamble will not limit the scope of the claim if the body of the claims "sets out the complete invention." However the preamble will limit the scope of the claim if "it recites essential structure that is important to the invention or necessary to give meaning to the claim." *Bicon Inc. v. Straumann Co.* 441 F.3d 945, 952 (CAFC 2006) (internal citations omitted).

## FINDINGS OF FACT

1. Wang teaches a bit allocation system for multiplexing multiple compressed and uncompressed signals. Abstract.
2. Wang teaches that transcoders are used to change the bit rate of a compressed video stream. Col. 5, ll. 54-58.
3. The transcoders receive a target number of bits from a rate control processor. Wang, col. 8, ll. 54-56.
4. The target number of bits is used by the transcoder to adjust the quantization parameter. The number of bits used and the

quantization parameter are fed back to the rate control processor.

The complexity processor, in the rate control processor, then uses the values to calculate the new target number of bits. Wang, col. 8, l. 63 – col. 9, l. 9.

5. Wu teaches a system for providing rate control of a video encoder. Abstract.
6. The bit rate is controlled in each of the panel compressors (encoders) by a master compression controller which collects statistics from the output of the encoders to determine the quantizer level for each encoder. Wu, col. 4, ll. 7-19.

#### ANALYSIS

Appellant's arguments have persuaded us that the Examiner's rejection of claims 2 through 7 under 35 U.S.C. § 103(a) is in error. Independent claim 2 recites a method of controlling a plurality of transcoding channels "wherein a regulation process uses quantization scales and the input compressed data signal to determine a video encoding complexity." Independent claims 4 and 5 recite similar limitations.<sup>1</sup> Independent claim 6 recites a program which includes a process to "compute a video encoding complexity using quantization scales and an input compressed data signal." Thus, the scope of each of the independent claims includes a limitation that the complexity is determined using the input encoding compressed video signal.

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<sup>1</sup> We note that in each of these claims the limitation appears in the preamble of the claim. In these claims we consider the preamble of the claims to recite essential structure necessary to give meaning to the claims. Thus, we consider the preamble to limit the claims.

In response to the Appellant's arguments the Examiner states:

Wang illustrates in figure 6 receiving a pre-compressed input data signal into a transcoding system. This input signal is fed into the transcoder and then from the transcoder to the rate control processor (610). It is in the rate control processor that the complexity is calculated (605). Wang further discloses this process in column 8, line 37 - column 9, line 8. The pre-compressed input is retrieved from memory and then used to determine the complexity. The examiner notes that claim language does not recite directly/immediately using the input signal to calculate complexity. Therefore, Wang shows using the input signal, after one processing step, to calculate the complexity.

Answer 5.

We disagree with the Examiner's rationale. As discussed *supra*, we consider that each of the independent claims recites that the input image video signal is used to determine the encoding complexity. Further, we find that Wang teaches that information output of the transcoder is used to adjust the target bit rate and complexity. Fact 4. We disagree with the Examiner's characterization that Wang shows the input signal, after one processing step, is used to calculate the complexity, as that one processing step produces the output of the transcoder. The Examiner has not found, nor do we find, that Wu teaches or suggests modifying Wang to use an input image video signal to determine the encoding complexity as claimed. Accordingly, we reverse the Examiner's rejection of independent claims 2, 4, 5, and 6 and dependent claims 3 and 7.

ORDER

Appeal 2007-3611  
Application 09/836,096

For the foregoing reasons, we will not sustain the Examiner's rejection under 35 U.S.C. § 103(a). The decision of the Examiner is reversed.

REVERSED

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